RECLAMATION

Managing Water in the West

Draft Environmental Assessment

City of Round Rock Wastewater Reuse Project

U.S. Department of the Interior
Bureau of Reclamation
Great Plains Region
Oklahoma-Texas Area Office
Austin, Texas

September 2009

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

City of Round Rock Wastewater Reuse Project
Draft Environmental Assessment
Williamson County, Texas

Prepared for
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September 2009

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ACRONYMS AND ABBREVIATIONS

af/yr	acre-feet per year
CEQ	Council on Environmental Quality
City	City of Round Rock
EA	Environmental Assessment
EAC	Early Action Compact
EPA	U.S. Environmental Protection Agency
IPCC	Intergovernmental Panel on Climate Change
L.F.	linear feet
MGD	Million Gallons per Day
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
National Register	National Register of Historic Places
Plant	Brushy Creek Wastewater Treatment Plant
RWL	Reuse water-line
Reclamation	U.S. Bureau of Reclamation
TCEQ	Texas Commission on Environmental Quality

SECTION 1

INTRODUCTION

1.1 BACKGROUND

The current average water demand within the City of Round Rock (City) is approximately 22,000 acre-feet per year (af/yr) or 20 million gallons per day (MGD) and is projected to increase to approximately 58,000 af/yr or 52 MGD by 2050. Surface water from Lake Georgetown, Lake Stillhouse Hollow and Lake Travis (once conveyance facilities have been constructed), and groundwater from the Edwards Aquifer are expected to provide 51,000 af/yr, or 47 MGD to the City in 2050, thereby creating a water supply deficit of 7,000 af/yr, or 6.3 MGD.

Population within the City has increased from 30,923 in 1990 to 109,053 in 2008, an increase of over 250 percent for this ten year period. Population projections for the City include an estimated population increase to 271,100 persons by 2050.

Recent development projects located within the City include the Higher Education Center, which is affiliated with Austin Community College and Texas State University, Seton Medical Center Williamson, and several new and proposed commercial and residential developments.

The principal areas expected to utilize the water generated by this project include Old Settler's Park and the Higher Education Center. Landscape maintenance which occurs on the existing grounds associated with these facilities includes the use of substantial amounts of water. These facilities reflect the desire of the City to provide a strong and vibrant community for its citizens.

Old Settlers Park is the City's major park and sports destination. The park's 570 acres include a softball complex, baseball complex, three miles of trails, a pond, disc golf course, sand volleyball courts, picnic areas, park pavilions, soccer fields, tennis courts, the Rock'N River Family Aquatic Center water park, and practice football fields.

The proposed project would be funded by the City and by grant funds provided by the Bureau of Reclamation (Reclamation), contingent on appropriations. Because federal funds are being used for the project, an environmental review must be conducted, pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended. NEPA requires federal agencies to integrate environmental considerations into their decision making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. This Environmental Assessment (EA) was prepared to assess any potential environmental impacts of the proposed project. The draft EA will be circulated to state and federal agencies for review and made publically

available for review. If it is determined that there are no significant impacts, a finding of no significant impacts (FONSI) can be issued and the project may proceed.

1.2 LOCATION

The five phases of this proposed water reuse line project are located in northeast Round Rock, Williamson County, Texas. The project is located on the Round Rock and Hutto USGS topographic quadrangle sheets. The proposed project location is shown on a topographic map (Figure 1) and an aerial photograph (Figure 2).

1.3 PURPOSE AND NEED FOR ACTION

1.3.1 Purpose

The purpose of the proposed action is to provide up to 10,000 af/yr or 8.9 MGD of treated wastewater effluent (reuse water) to a variety of customers within the City to offset its projected long-term water supply deficit. This reuse water would be used primarily for landscape irrigation within Old Settler's Park and areas surrounding the Higher Education Center.

1.3.2 Need

The need for the project is to provide a means to resolve the long-term water deficit which is projected to result unless the available water supply is supplemented. Implementation of a reuse water system is more economical than development of additional potable water supplies for this project. Water reclamation is an approach which provides water for municipalities while conserving potable water supplies and using treated wastewater effluent that would otherwise not be utilized for municipal purposes. The specific details associated with this project are included within the project description.

1.4 PUBLIC INVOLVEMENT, CONSULTATION AND COORDINATION

Advertisements announcing a public meeting for the proposed project were placed in the Round Rock Leader. This advertisement was published on March 28th and April 21st, 2009. Letters detailing the proposed project and announcing the public meeting were sent to interested parties including property owners, homeowners associations, businesses and federal, state and local agencies; these letters were dated April 15, 2009.

The public meeting for the proposed Round Rock Water Reuse Project was held on April 30, 2009 at the Brushy Creek Wastewater Treatment Plant Administration Building in Round Rock, Texas. The meeting was held from 4:30 to 6:30 pm and attendees were invited to stay as long as desired to have their questions answered. Seven people attended the meeting; two representatives from the City, three from the engineering consultant, one from the Bureau of Reclamation and one resident of the city. No comments were received.

Figure 1: Proposed Project Location – Topographic Map

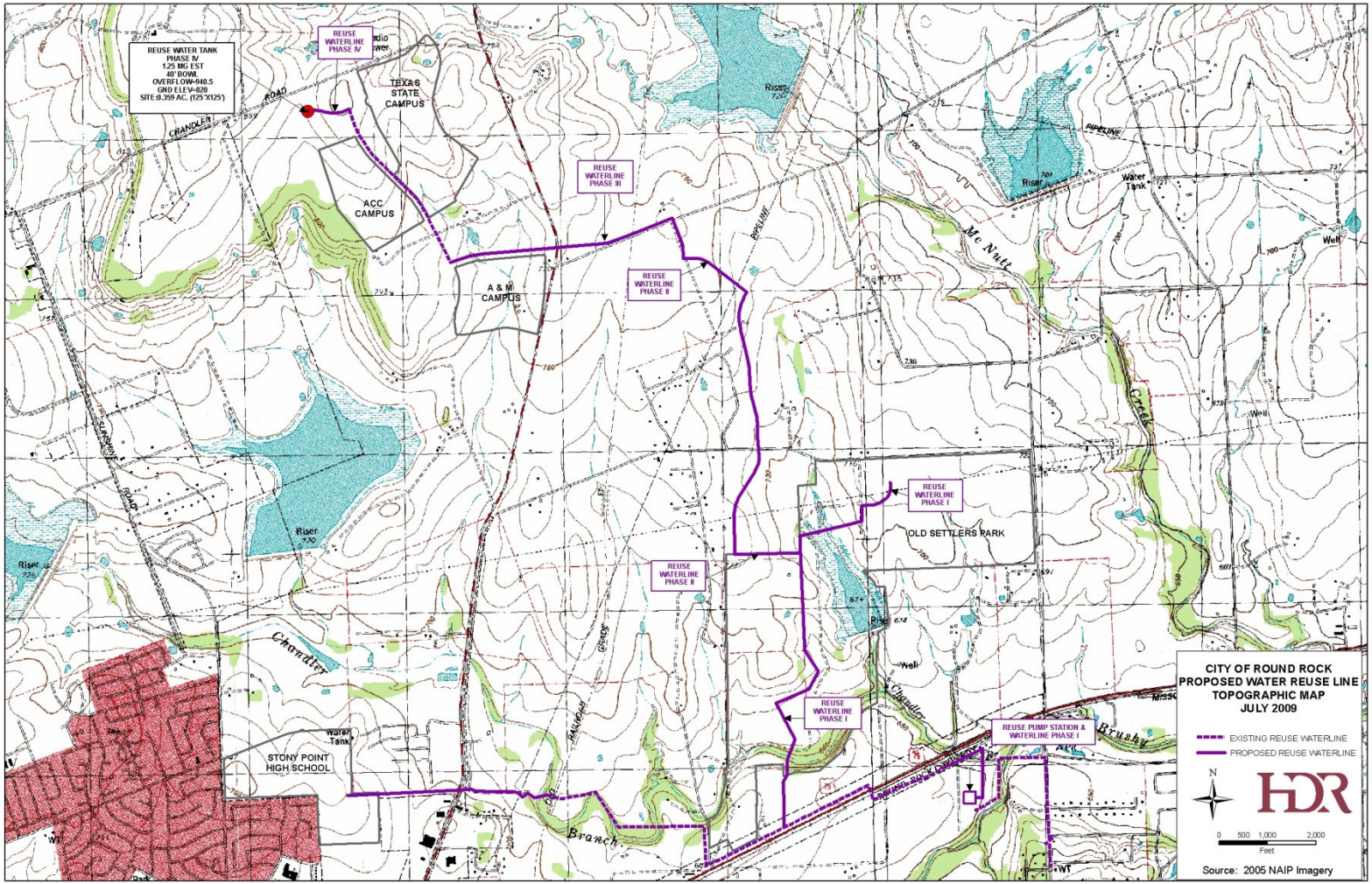


Figure 2: Proposed Project Location – Aerial Photograph

SECTION 2

ALTERNATIVES

2.1 ALTERNATIVE 1 – PROPOSED ACTION

The Proposed Action would involve facility improvements, the installation of reuse waterlines (RWL), and installation of a reuse water tank in five phases as described below and shown on Figure 3. The RWL would be installed by open cut trenching except for two RWL crossings at FM 1460 in Phases III and V. The RWL at FM 1460 would be installed using borings.

- Phase I:

  Wastewater Treatment Plant: Construction of filters at the Brushy Creek Wastewater Treatment Plant (Plant) allowing for production of treated wastewater effluent that complies with Texas Commission on Environmental Quality (TCEQ) requirements for reuse water; Construction of a pump station at the Plant to pressurize the water for distribution to reuse customers; Improvements at the Plant would also include installation of 800 linear feet (L.F.) of 24 inch piping to connect with existing RWL on E. Palm Valley Road (US Highway 79 [US 79]).

  Reuse Waterline: Installation of 6,396 L.F. of 24 inch RWL and 2,874 L.F. of eight inch RWL; The majority of this phase would be within Old Settlers Park and would connect to an existing 24 inch RWL on US 79 in the south.

- Phase II:

  Pump Station: Construction of a booster pump station at the north end of Old Settler's Park to increase water pressure for distribution to reuse customers on the northern end of the project.

  Reuse Waterline: Installation of 9,385 L.F. of 24 inch RWL connecting to Phase I RWL in Old Settlers Park, heading generally north to CR 112.

- Phase III: Phase III would connect to Phase II RWL at CR 112. Phase III would include the installation of 2,649 L.F. of 24 inch RWL roughly parallel to CR 112 and 2,055 L.F. of 18 inch RWL adjacent to the Texas A&M Health Science Center campus connecting to an existing 18 inch RWL at the northwest corner of the campus.

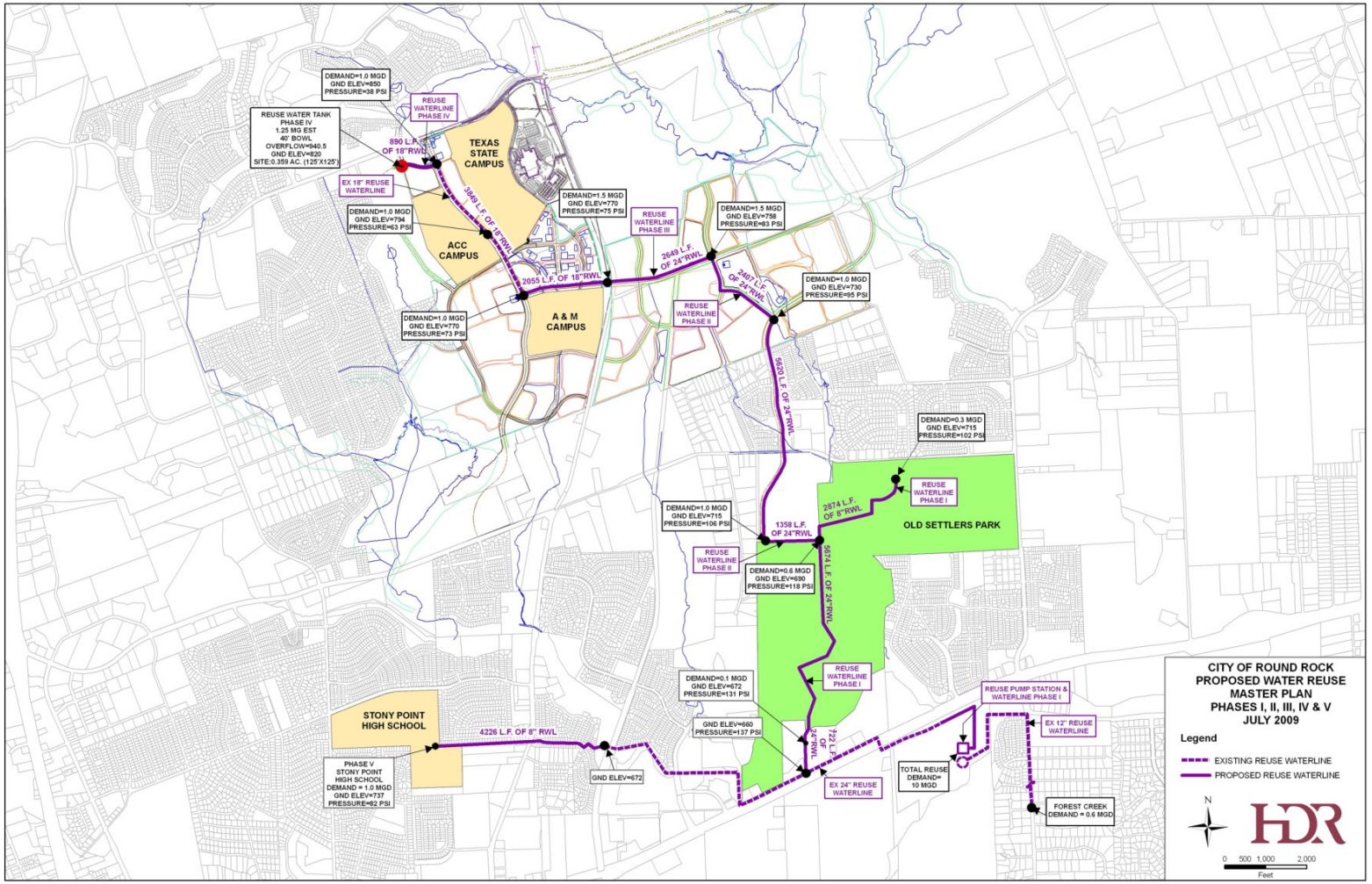
- Phase IV: Construction of an estimated 1.25-million gallon (MG) Reuse Water Tank at an approximately 0.4 acre site located approximately 1,100 feet east of the intersection of CR 114 and Sandy Brook Drive; This tank would connect to existing RWL.

- Phase V: Installation of 4,226 L.F. of eight inch RWL connecting to existing piping approximately 1,800 feet east of FM 1460, extending to Stony Point High School.

2.2 ALTERNATIVE 2 – NO ACTION

Under Alternative 2 – the No Action Alternative, the proposed water reuse project would not be constructed and implemented. No RWL, improvements to the Plant, or water tank would be constructed and up to 8.9 MGD of reuse water would not be provided to customers within the city.

Figure 3: Proposed Action – Phases I, II, III, IV & V



SECTION 3

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATING MEASURES

Environmental resources potentially impacted by the alternatives and other issues of concern are described in this section. The impacts include identifying any direct, indirect, or cumulative effects.

3.1 SITE DESCRIPTION / AFFECTED ENVIRONMENT

The proposed project area is in northeastern Round Rock extending from near US 79 in the south to the Texas State Campus on the northwest. The majority of the RWL would be installed under existing streets in neighborhoods, and within existing utility easements. Currently, vegetation in the majority of the project area consists of maintained grass.

3.2 ENVIRONMENTAL CONSEQUENCES - NO ACTION ALTERNATIVE

There would be no effects and no change to current conditions from the No Action Alternative to any of the resources analyzed in this EA.

3.4 ENVIRONMENTAL CONSEQUENCES - PROPOSED ACTION

The following resources are not discussed in this EA: economics, climate, floodplains and wetlands, fisheries, mineral resources, recreation, Indian Trust Assets, or topography. Impacts to these resources were considered but not analyzed in detail because they are not affected by the project.

3.4.1 Wildlife

During construction of the water pipeline and associated facilities local wildlife may be displaced by the noise and disturbance. These potential effects to wildlife would be minimal and temporary.

3.4.2 Threatened and Endangered Species

Databases of sensitive species maintained by the United States Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD) were reviewed in July 2009, to verify any state and/or federally listed threatened or endangered species that occur or have historically occurred in Williamson County. Some of the listed species reported are migrants or wintering residents only, or may be historic or considered extirpated.

Table 1 includes a total of five state-protected and six federally listed endangered and threatened species which may occur or can potentially occur within Williamson County. In addition to the county lists, the Texas Natural Diversity Database (TNDD) was reviewed for known occurrences of listed species within or near the project area. No occurrences of rare species occurred within the project area. The only occurrence within one mile of the project alignment includes the Jollyville Plateau salamander (*Eurycea tonkawea*), a federal candidate species.

The listed species for this county are unlikely to occur in the project area based on geography, lack of suitable habitats, or migratory status. Preferred habitat descriptions for each additional listed species are provided below. The presence or absence of potential habitat does not confirm the presence or absence of a listed species. No species specific surveys were conducted in the project area.

Table 1. Federal and State-Listed Threatened and Endangered Species for Williamson County, Texas

Common Name	Scientific Name	Presence of Suitable Habitat within Project Area	Federal Status	State Status
Bone Cave harvestman	*Texella reyesi*	No	E	--
Coffin Cave mold beetle	*Batrisodes texanus*	No	E	--
Tooth Cave ground beetle	*Rhadine persephone*	No	E	--
Black-capped Vireo	*Vireo atricapilla*	No	E	E
Golden-cheeked Warbler	*Dendroica chrysoparia*	No	E	E
Peregrine falcon*	*Falco peregrinus anatum* (American)	No	--	T
	Falco peregrinus tundrius (Arctic)	No	DL	T
Whooping crane*	*Grus Americana*	No	E	E

DL Delisted E Endangered T Threatened -- Not listed
*Possible migrant within Williamson County
Source: TPWD, 2009 and FWS, 2009

The Bone Cave harvestman, Coffin Cave mold beetle and Tooth Cave ground beetle are karst species and rely upon karst habitat for their survival. The proposed project area is located within an area mapped as Zone 4: does not contain endangered cave species (Veni, 1997).

Three bird species which are federally listed as endangered may occur in the project vicinity. These include the black-capped vireo, golden-cheeked warbler, and whooping crane. These bird species are all seasonal residents or migrants that could occur within the project area.

The Black-capped vireo prefers oak-juniper woodlands which contain a distinct two-layer characteristic. The shrub and tree layer area must be situated near additional open, grassy spaces. In addition, foliage within the shrub layer must reach ground level in order to provide this species their required nesting cover. No habitat of this type was observed within or adjacent to the RWL alignment for any Phase.

Golden-cheeked warbler breeding habitat typically consists of relatively dense and mature juniper-oak woodlands. These birds require long fine bark strips only found on mature ash junipers. Woodlands utilized regularly by warblers generally have a canopy cover of greater than 50 percent and tree height greater than 10 feet. No habitat of this type was observed within or adjacent to the RWL alignment for any Phase.

Whooping cranes migrate throughout the central portion of Texas during October-November and again in April. During migration, whooping cranes make regular stops to feed and rest. Although migrating whooping cranes use a variety of habitats for foraging and resting during these stopovers, they generally seem to prefer isolated sites away from human activities. No habitat of this type was observed within the proposed project area.

3.4.3 Water Resources

The proposed project is located within the transition zone of the Edwards Aquifer. TCEQ's Edwards Aquifer Protection Program does not apply to utility projects within the transition zone of the Edwards Aquifer. No impacts to groundwater would occur from the RWL and RWL construction activities of the Proposed Action Alternative.

The proposed project is within the watershed of Brushy Creek. Brushy Creek is a perennial stream designated by TCEQ as Segment 1244. Brushy Creek is listed on the 2008 TCEQ 303(d) list. This creek has bacteria levels that exceed applicable water quality standards.

The proposed project crosses the Chandler Branch of Brushy Creek and other unnamed tributaries of Brushy Creek. All creeks crossed by the proposed project are intermittent. The proposed project qualifies for Nationwide Permit (NWP) 12 Utility Line Activities. This NWP authorizes construction, maintenance or repair of utility line and the associated excavation, backfill or bedding for the lines in waters of the U.S. There would be no change from pre-construction contours following installation of the RWL.

Construction activities associated with the Proposed Action would include open cut trenching, boring, installation of RWL and construction of a 1.25 MG elevated water storage tank. The five phases of this project are not part of a larger common plan of development; therefore, it is anticipated that the proposed project would require compliance with the TCEQ General Permit TXR150000 for stormwater discharges from construction activities that disturb between one and five acres. A storm water pollution prevention plan, posting of a construction site notice and notification to the municipal storm sewer operator would be required.

3.4.4 Air Quality

Air quality in the region is currently in attainment for all criteria air pollutants. The Austin-Round Rock area including Williamson, Travis, Hays, Bastrop and Caldwell

counties signed an Early Action Compact (EAC) as part of a voluntary ozone reduction plan with the U.S. Environmental Protection Agency (EPA) and the TCEQ. Emissions-reduction strategies detailed in the EAC primarily focused on reducing the number of vehicles on area roadways.

Under the Proposed Action, temporary increases in fugitive dust emissions from construction activities would be anticipated. These dust emissions would be short-term, temporary, and would occur only during construction hours.

3.4.5 Noise

Under the Proposed Action Alternative, noise levels would be expected to increase temporarily during the period of construction due to the use of heavy equipment. Noise would be restricted to normal construction hours. Operation of the RWL would not be expected to affect noise levels in the area.

3.4.6 Vegetation

The vegetation within the proposed project area consists primarily of mown grass, soccer fields, and low priority weed species. Riparian corridor vegetation is present along the Chandler Branch of Brushy Creek. Native species are present in this corridor and include live oak, mesquite, sugar hackberry, cedar elm, and poison ivy. The Proposed Action would likely remove the vegetation from a narrow strip at each creek crossing. Maintained areas would be expected to return to pre-construction condition following installation of the RWL.

3.4.7 Visual Resources

Under the Proposed Action alternative, heavy equipment activity would be visible at the project sites during construction. The visual effect from construction would be temporary. During Phase IV, a water tank would be installed. The proposed tank would be approximately 40 feet in diameter and stand approximately 125 feet tall. The tank would be composite construction; a concrete column with a painted steel reservoir on top. This water tank would be similar in appearance to other water tanks in the area.

3.4.8 Land Use / Transportation / Access

Under the Proposed Action the installation of the RWL would occur primarily by open cut trenching, except at the FM 1460 crossings during Phases III and V. Transportation and access would be temporarily impacted by construction and installation of the RWL. Temporary road closures may occur during construction periods, but there would be no permanent change in access. Additionally, the Proposed Action would cause temporary impacts to land use within Old Settlers Park during Phase I of the project. No permanent land use changes would be anticipated with the Proposed Action.

3.4.9 Historic and Cultural Resources

Cultural resources is a term used to describe both ‘archaeological sites’ depicting evidence of past human use of the landscape and the ‘built environment’ which is represented in structures such as dams, roadways, and buildings. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation which outlines the Federal Government’s responsibility to protect cultural resources. Section 106 of the

NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion in the National Register are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action that has the potential to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Office (SHPO) to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

Research for this project was conducted online through the Texas Archaeological Sites Atlas, and focused on a search of previously recorded archaeological sites, surveys, State Archaeological Landmarks (SALs) and sites listed on the NRHP. Much of the project area had been previously surveyed. Twenty-three sites were within 2,000 feet of the project alignment; five sites, 41WM462, 41WM737, 411WM676, 41WM934, and 41WM1199, are close enough to be impacted by the proposed project; these sites are described in Table 2.

Table 2. Recorded Sites with Potential to be Impacted

Site Number	Site Type/Description	Distance from APE/Phase	Recommendations	Current Status of Site
41WM462	Prehistoric / lithic scatter, open campsite	0 feet / Phase I	No further work	Destroyed or buried by construction
41WM737	Prehistoric-historic / 19th/20th Century house and possible open campsite	0 feet / Phase I	No further work	Recommended for no further work in 1986
411WM676	Prehistoric / Mixed use campsite and lithic procurement area along Chandler Creek	0 feet / Phase V	No further work	Destroyed or buried by construction
41WM934	Prehistoric-historic / 19th/20th Century house and possible campsite	50 feet / Phase I	No further work	Destroyed or buried by construction
41WM1199	Historic / 20th Century	100 feet /	No further work	Recommended for

farmstead with barn, cistern and well	Phase II	no further work in 2008

Source: Ecomm, 2009.

Much of the proposed project area has been previously surveyed for cultural resources and numerous sites have been documented. None of the identified sites are eligible for listing on the National Register or as State Archaeological Landmarks. Coordination with the Texas Historical Commission has been initiated and is included as Appendix A.

Under the no action alternative, Reclamation would not approve funding for the City of Round Rock Water Reuse Project. Reclamation would not be required to implement Section 106 of the NHPA and no impacts to cultural resources would be anticipated.

Under the proposed action alternative, the project would be implemented; facility improvements would be made and the RWL would be installed via open cut trenching and directional boring in five phases as described in Section 2.1. Given the extensive level of archaeological effort previously expended in the proposed project vicinity coupled with recent land modifications and the low potential for intact buried archaeological materials within the proposed project alignment, a recommendation has been made for no further work along the project alignment prior to construction.

3.4.10 Geology and Soils

Local geology is made up of Quaternary alluvium (Qt) along the Chandler Creek drainage basin, and at its confluence with Brushy Creek. The rest of the project area lies within the Eagle Ford formation (Keb) uplands. No impacts to area geology would be expected due to the proposed alternative.

Soils consist mainly of Austin and Krum silty clay loams. Krum silty clays are typically found around stream terraces, such as Chandler and Brushy Creeks. These soils are deep and of Pleistocene age. Austin silty clay loams are at footslopes and are shallow to moderately deep. Other soils found along the alignment include Houston Black clay, Branyon clay, Tinn silty clay, and Castephen silty clay. Soil disturbance would occur due to installation of the RWL. Soils in this area have previously been impacted by a variety of urban and recreational uses.

3.4.11 Environmental Justice

Executive Order No. 12898, Environmental Justice, is "intended to promote nondiscrimination in Federal programs substantially affecting human health and the environment, and to provide minority and low-income communities' access to public information on, and an opportunity for participation in, matters relating to human health and the environment." It requires each federal agency to achieve environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including social and economic effects, of its programs, policies, and activities on minority and low-income populations.

EPA guidelines for evaluating potential adverse environmental effects of projects require specific identification of minority populations when a minority population either

exceeds 50 percent of the population of the affected area or represents a meaningfully greater increment of the affected population than of the population of some other appropriate geographic unit.

Table 3 provides a break out of the race and ethnicity within Census 2000 block groups that encompass the project area, as well as data for the Austin, Texas urbanized area (includes the proposed project area) and Williamson County for comparison. Block groups within the project area have a similar racial and ethnic composition to the Austin, Texas urbanized area. The minority population in block groups encompassing the proposed RWL project contains less than 50 percent minority population and is not meaningfully greater than the comparison areas.

Table 3. Race and Ethnicity

Area	Total Population	White	Black	Asian	Other	Hispanic
CT 215.01, BG 1	4,933	3,165	507	177	121	963
		64.2 %	10.3 %	3.6 %	2.5 %	19.5 %
CT 215.01, BG 2	2,184	1,684	118	30	43	309
		77.1 %	5.4 %	1.4 %	2.0 %	14.1 %
CT 215.01, BG 3	3,535	2,144	233	48	76	1,034
		60.7 %	6.6 %	1.4 %	2.1 %	29.3 %
Austin, Texas Urbanized Area[1]	901,920	522,026	79,090	40,859	18,352	241,593
		57.9 %	8.8 %	4.5 %	2.0 %	26.8 %
Williamson County	249,967	183,847	12,444	6,483	4,203	42,990
		73.5 %	5.0 %	2.6 %	1.7 %	17.2 %

.Source: USCB, 2000

[1] Includes Round Rock, Texas

Table 4 shows the low-income population data for the three 2000 Census block Groups that encompass the proposed project area as well as the larger comparison areas. The low-income population within each of the block groups is lower than the larger comparison areas.

Table 4. Low-Income Populations

Area	Total Population	Number Below Poverty Level	Percent Below Poverty Level
CT 215.01, BG 1	4,786	23	0.5
CT 215.01, BG 2	2,220	94	4.2
CT 215.01, BG 3	3,486	84	2.4
Austin, Texas Urbanized Area[1]	883,150	100,287	11.4
Williamson County	244,927	11,735	4.8

Source: USCB, 2001

As shown in Tables 3 and 4 above, no environmental justice populations are present within the proposed project area. Therefore, the Proposed Action Alternative would not disproportionately affect minority or low-income populations within the community.

3.4.12 Hazardous Materials

According to records maintained by the EPA, there are two sites within 0.25 miles of the project area (EPA, 2009). These sites include Cooks Service On Site, Inc., listed as a car wash and auto oil change and lubrication shop and Wal-Mart Supercenter 5480. Cooks Service On Site, Inc. is listed in the used oil program and Wal-Mart is listed as a small quantity generator. A query on July 28, 2009 of the Leaking Petroleum Storage Tank databases maintained by the TCEQ indicates there are no existing sites near the project area.

3.4.13 Climate Change

Secretarial Order 3226 (2001), *Evaluating Climate Change Impacts in Management Planning*, states that, "each bureau and office of the Department will consider and analyze potential climate change impacts when undertaking long-range planning exercises, when setting priorities for scientific research and investigations, when developing multi-year management plans, and/or when making major decisions regarding the potential utilization of resources under the Department's purview. Departmental activities covered by this Order include, but are not limited to, programmatic and long-term environmental reviews undertaken by the Department…"

The Intergovernmental Panel on Climate Change (IPCC), predicts that the earth's climate is changing due to atmospheric buildup of greenhouse gases including carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons (IPCC, 2007). Although uncertainty exists about exactly how the earth's climate will respond to enhanced concentrations of greenhouse gases, observations indicate that detectable changes will occur and will include increases in temperature and changes in rainfall, evaporation, groundwater recharge rates, soil moisture, and runoff patterns. Based on this information, it is likely that differences between historic and future (i.e., 2050) hydroclimatic conditions in the proposed study area will exist.

The Council on Environmental Quality (CEQ) 1997 draft guidance on climate change states that Federal agencies must determine whether and to what extent (1) their actions may affect climate change, and (2) how climate change may affect their actions. The CEQ asserts that the first question is perhaps better answered at the Federal program level because project-level emissions are likely of such insignificance that meaningful information may not be discerned. This approach recognizes that individual projects such as the City's proposed wastewater reuse project may increase greenhouse emissions by only marginal amounts compared to those emitted by the City, the county or even the state as a whole.

The second question posed by CEQ pertains to evaluating the extent to which climate change may affect the City's proposed wastewater reuse project. In order to do this, one must first be able to accurately make predictions about climate change impacts on a scale relevant to that of the proposed study area. However, current climate modeling projections focus primarily on future global hydroclimatic conditions, leaving a gap in much needed climate data at the "basin" or "local study area" scale necessary for this analysis or that of most other small-scale Federal actions.

Numerous "downscaling" techniques have emerged as a means of reconciling global climate change data with the requirements of climate change impact assessments that evaluate smaller areas. However, to date, no technique has gained wide acceptance for impact analyses in the proposed project's impact area in Texas and downscaling methodologies have not yet been incorporated into future statewide water planning efforts or in the administration of water rights by the TCEQ.

Although climatic change is considered reasonably foreseeable, there is no accepted science for transforming variations in global temperature into incremental, quantifiable changes in stream flow within the project area, and better predictions of future climate change at the basin scale are needed in order to accurately revise input data sets into existing water availability models. It is not anticipated that the proposed project would impact global climate change and, at this time, impacts to the proposed project from local climate change are unknown.

SECTION 4

OTHER NEPA CONSIDERATIONS

4.1 INDIRECT EFFECTS

It is not anticipated that the proposed project would contribute to indirect impacts. The proposed project would provide reuse water to a variety of customers; however, the area is already in a state of rapid development and the proposed project would not be expected to increase development in the area.

4.2 CUMULATIVE IMPACTS

The proposed reuse water project is a phased project with substantial completion of Phase I expected in April 2011. The proposed project alignment is located in a rapidly developing area of Williamson County. Much of the surrounding area has seen recent construction in the form of housing developments, utility infrastructure, sports fields, parking lots and various other structures including the planned and recent Texas A&M Health Science Center (opens Fall 2009), Round Rock Higher Education Center, and Austin Community College campus (opens 2010). These recent and planned projects would not be expected to contribute to a cumulative impact with a proposed RWL and associated structures.

4.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS

Irreversible commitments are decisions affecting renewable resources such as soils, wetlands and waterfowl habitat. Such decisions are considered irreversible because their implementation would affect a resource that has deteriorated to the point that renewal can occur only over a long period of time or at great expense, or because they would cause the resource to be destroyed or removed.

Irretrievable commitment of natural resources means loss of production or use of resources as a result of a decision. It represents opportunities forgone for the period of time that a resource cannot be used. Irretrievable refers to the permanent loss of a resource including production, harvest, or use of natural resources. For example, production or loss of agricultural lands can be irretrievable, while the action itself may not be irreversible.

The proposed water reuse project would not result in any changes or other physical impacts that would irreversibly or irretrievably commit renewable resources from this federal action.

SECTION 5

LIST OF PREPARERS

- Sara Moren, Environmental Scientist, HDR Engineering, Inc.
- Shirley Nichols, Senior Environmental Project Manager, HDR Engineering, Inc.
- Peggy Jones, Environmental Scientist, HDR Engineering, Inc.

SECTION 6

REFERENCES

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Veni, 1997. Maps showing Zones of Endangered Cave Species – Round Rock USGS 7.5-minute quadrangle.

Appendix A: Texas Historical Commission Correspondence

ECOLOGICAL COMMUNICATIONS CORPORATION
Environmental Services

AUG 11 2009

July 21, 2009

Dr. James E. Bruseth
Archeology Division Director
Texas Historical Commission
1511 Colorado, Austin, TX 78701

Re: Round Rock Reuse Water Line

Attn: Ed Baker

Dear Mr. Baker:

The City of Round Rock proposes to install a new reuse waterline near US 79, east of Round Rock. Ecological Communications Corporation (EComm) has been subcontracted by HDR, Inc, the City's consulting engineer, to conduct background research and coordinate with your office regarding the effects the proposed reuse water pipeline will have on cultural resources. The proposed undertaking is located on the Round Rock 7.5' USGS Topographic Quadrangle, east of the city center of Round Rock. The project is being sponsored by the City of Round Rock. The project will entail installation of approximately 5.9 miles of reuse water pipeline from a wastewater treatment facility, located south of US 79 near Old Settlers Park, to deliver reuse water to Old Settlers Park, Stony Point High School, planned Texas A&M, Texas State and ACC Campuses, and surrounding neighborhoods.

Installation is expected to occur entirely through open cup cut trenching, except at two crossings of FM 1460, where the pipeline will be installed through directional boring. The majority of the pipeline will be installed under existing streets, neighborhoods and within existing utility easements. The total corridor width is not expected to exceed 60-80 feet.

The project will be built in five Phases (see attached Figure depicting Master Plan). A brief description of and the limits of each phase is as follows:

- Phase I will entail installation of 24-inch and 8-inch reuse waterlines through Old Settlers Park. It will also include construction of filters at the wastewater treatment plant (WWTP) to provide reuse quality effluent, a pump station to pressurize the reuse water for distribution, and approximately 800 linear feet of 24-inch yard piping at the WWTP to connect to the existing 24" reuse waterline. The total distance is approximately 11,000 linear feet.

4009 Banister Lane, Suite 300
Austin, Texas 78704
Tel: (512) 329-0031 Fax: (512) 329-0012

- Phase II will entail installation of a 24-inch reuse waterline from Old Settlers Park to CR 112 for a total distance of approximately 7,000 linear feet.
- Phase III will entail installation of 18-inch and 24-inch reuse waterlines along CR 112, across FM 1460 to follow an existing road, and through the planned university campus area for a total distance of approximately 9,000 feet.
- Phase IV will entail construction of a reuse water storage tank located west of the planned university campus area.
- Phase V will entail installation of an 8-inch reuse waterline from Stony Point High School to 2,000 feet east of FM 1460 for total distance of approximately 4,000 feet.

The proposed route for the reuse waterline and the proposed phases are depicted on the attached Master Plan map.

Research for this project was conducted online through the Texas Archeological Sites Atlas, and focused on a search of previously recorded archeological sites, surveys, State Archeological Landmarks (SALs) and sites listed on the National Register of Historical Places. Research found that much of the project area has been previously surveyed. Previous surveys are listed by phase below.

Phase I
Virtually all of the Phase I project area has been subject to professional survey. The surveys that overlap or intersect with the project alignment are:

- Lone Star Archeological Services (LSAS) conducted a survey that included shovel testing covering two large areal tracts north of Chandler Creek on either side of Harrell Parkway in 1986 for the City of Round Rock, in advance of land acquisition from A.J. Palm and Carolina Nelson. According to site forms Sites 41WM737-744 were recorded at this time. This work was conducted under Antiquities permits 631, 632 and 633.
- In 2000, the Fort Worth Corps of Engineers sponsored an areal survey, also north of Chandler Creek, for a housing development located just east of Old Settler's Park. This survey recorded two sites- 41WM953 and 41WM954.
- In 1998, the City of Round Rock sponsored another survey in between Chandler Creek and US 79, in advance of construction of the Round Rock express stadium. This survey included shovel testing and documented one site 41WM934.
- In 1981 the EPA sponsored a survey in advance of construction of the wastewater treatment plant south of US 79. This survey recorded two sites—41WM462 and 41WM463.
- In 2004, Paul Price conducted a small survey south of US 79 in advance of an electrical substation, located just west of the water treatment plant. This survey documented no sites.
- In 1999 a linear survey that extended from roughly the wastewater treatment plant along the proposed Phase I alignment to a housing development located just east

of FM 1460 was conducted by Hicks & Company. This survey utilized backhoe trenches along Chandler Creek and documented one new site 41WM952. It revisited 41WM462 and found it to be completely disturbed

- The online sites atlas shows a survey was conducted on the east side of Brushy Creek south if US 79. This was likely performed in advance of construction for the Avery Farms residential development, but the atlas does not have information about it.

Phase II
According to the online sites atlas, no surveys have taken place that overlap or intersect the Phase II alignment. However, one site is located near the alignment. Site 41WM1199 was recorded north of CR 112 during a survey for a private client in advance of a proposed Avery Farms development. This survey is not depicted on the online sites atlas.

Phase III
Four surveys have intersected the Phase III alignment. These include:

- A 2003 linear survey under Permit 3045 that roughly parallels FM 1460,
- A 2004 survey under Permit 3177 along a tributary branch of Chandler Creek, west of FM 1460,
- A 2006 survey sponsored by TxDOT along FM 1460,
- And a 1988 linear survey sponsored by the Veterans Administration surrounding the area west of the tract proposed for an ACC campus, west of FM 1460.

None of these surveys recorded any sites, though based on site forms for sites within or near the project area a survey, not depicted on the sites atlas, was performed in advance of a Bill Milburn development in 1985.

Phase IV
No surveys have occurred that intersect or overlap with the Phase IV project.

Phase V
One survey has taken place that overlaps with virtually the entire Phase V alignment. Prewitt and Associates performed a survey for a residential development located on either side of FM 1460 and recorded ten sites, four of which are within 2,000 feet of the Phase V alignment.

Archeological Sites within 2,000 feet of the proposed project alignment
There are 23 archeological sites located within 2,000 feet of the project alignment. These are summarized by phase in Table 1.

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Table 1. Sites located within 2,000 feet of the project

Site Number	Site Type	Description	Distance from APE	Phase	Recommendations
41WM737	Prehistoric/historic	19th/20th C. house and possible open campsite	0 feet	I	No further work
41WM738	Historic	19th C. house site marked by surface scatter	300feet	I	No further work
41WM739	Prehistoric/historic	19th C. classical revival house and possible open campsite	600 feet	I	Testing of area south of house
41WM740	Prehistoric/historic	19th/20th C. house and possible open campsite	900 feet	I	Preservation and/or testing
41WM741	Historic	20th C. tenant house site marked by surface scatter	900feet	I	No further work
41WM742	Prehistoric/historic	19th C. log cabin	300 feet	I	Preservation and testing
41WM743	Historic	19th C. disturbed house site marked by surface scatter	600feet	I	No further work
41WM744	Prehistoric	Lithic quarry	1,200 feet	I	No further work
41WM934	Prehistoric/historic	19th/20th C. house and possible campsite	50 feet	I	No further work
41WM952	Prehistoric	Buried lithic scatter	0 feet	I	No further work
41WM954	Prehistoric	Unknown prehistoric scatter	2,000 feet	I	No further work
41WM1027	Prehistoric	Buried low density lithic scatter on south side of Brushy Cr,	2,000 feet	I	No further work
41WM462	Prehistoric	Lithic scatter, open campsite	0 feet	I	No further work
41WM463	Prehistoric	Lithic scatter, open campsite	1,000 feet	I	Avoidance or testing
41WM1199	Historic	20th C farmstead with barn, cistern and well	100 feet	II	No further work
41WM1200	Historic	20th C farmstead with barn, garages, animal pen and cistern	950 feet	III	No further work
41WM1201	Historic	Historic period farmstead	1,100 feet	III	No further work
41WM674	Prehistoric	Open campsite and burned rock feature on trib to Chandler Branch	1,800 feet	V	Testing if site is disturbed
41WM675	Historic	Late 19th and 20th C. tenant farmstead	1,200 feet	V	No further work
41WM676	Prehistoric	Mixed use campsite and lithic procurement area along Chandler Creek	0 feet	V	No further work
41WM679	Prehistoric	Lithic scatter	1,000 feet	V	No Further work
41WM683	Historic	Household debris scattered from disturbed homesite	1,000 feet	V	No further work

Only five of these sites—41WM462, 41WM737, 411WM676, 41WM934, and 41WM1199—are close enough to be impacted by the proposed project. Of these sites, however, Sites 41WM462, 41WM 676 and 41WM934 have been completed destroyed or buried by the construction of the water treatment plant, a residential development, and the Round Rock Express stadium, respectively. Sites 41WM737 and 41WM1199 were

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recommended for no further archeological work, when it they were recorded in 1986 and 2008.

The project alignment is located in a very rapidly developing area of Williamson County. Much of the adjacent area has seen recent construction in the form of housing developments, utility infrastructure, roads, ballparks, sports fields, parking lots and various other structures. Additionally, those areas not developed with roads and housing complexes have been recently cultivated or bladed in preparation for planned development.

Local geology is made up of Quaternary alluvium (Qt) along the Chandler Creek drainage basin, and at its confluence with Brushy Creek. The rest of the project area lies within the Eagle Ford formation (Keb) uplands.

Soils consist mainly of Austin and Krum silty clay loams. Krum silty clays are typically found around stream terraces, such as Chandler and Brushy Creeks, are deep and of Pleistocene age. These have potential to contain buried archeological material. Austin silty clay loams are at footslopes and are shallow to moderately deep. Archeological material would be shallowly buried within Austin silty clay loams. Other soils found along the alignment include Houston Black clay, Branyon clay, Tinn silty clay, and Castephen silty clay. Of these, only Tinn series soils, found along part of Chandler Creek, have potential for buried archeological material.

To summarize, we are contacting your office to introduce the project, describe the results of the background search, and solicit formal recommendations from you regarding the need for further field identification efforts prior to project implementation. Much of the project alignment has been surveyed through surface inspection, shovel tests and backhoe trenches, resulting in the documentation of numerous sites around the project. However, none of them are eligible for listing on the National Register or as SALs.

Virtually all of Phase I has been surveyed though pedestrian survey, shovel tests and backhoe trenches (at Chandler Creek). Though four sites are within 100 feet of the Phase I alignment, all but one have been completely disturbed by construction. Only one site, 41WM737 has not been completely destroyed, and this was not recommended for testing to determine eligibility for the National Register or as a State Archeological Landmark. No survey is recommended for the Phase I alignment.

Phase II has not been surveyed. However, this crosses an upland area that has been either recently cultivated, bladed, or developed with housing and roads. There is potential for surface or shallowly buried sites only along the Phase II alignment. However, given that recent development or cultivation would likely have destroyed such surface sites, survey is not recommended for the Phase II alignment.

The Phase III and IV alignments are also largely unsurveyed, and like Phase II alignment, the water line will cross upland terrain that has been largely disturbed by plowing, or recent construction. Tough there is potential for surface or shallowly buried sites along

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the Phase III and IV alignments, given that recent development would likely have destroyed surface sites, survey is not recommended for the Phase III and IV alignments.

The Phase V water alignment has been previously surveyed and is now completely developed. Site 41WM676, which is located directly within the Phase V alignment, is now covered by homes. While there was some potential for buried sites to be present at Chandler creek (the Phase's eastern terminus), that area is also completely developed. Moreover, the 1999 Hicks & Company survey included backhoe trenching on the east side of Chandler Creek and found no evidence of buried archeological material. Survey is not recommended for the Phase V alignment.

Given the extensive level of archeological effort already expended in this area, given the recent land modifications, and given low potential for intact buried archeological materials anywhere in within the project alignment, EComm recommends that no portion of the proposed water line warrants survey prior to construction.

We appreciate the opportunity to help protect the irreplaceable cultural heritage of the State of Texas. If you require any additional information, please contact me at (512) 329-0031.

Sincerely,

Rachel Feit
Principal Investigator

CONCUR
by _____
for F. Lawerence Oaks
State Historic Preservation Officer
Date 8-6-09
Track# 200910299

NO SURVEY REQUIRED
PROJECT MAY PROCEED
by _____
for F. Lawerence Oaks
State Historic Preservation Officer
Date 8-6-09
Track# _____

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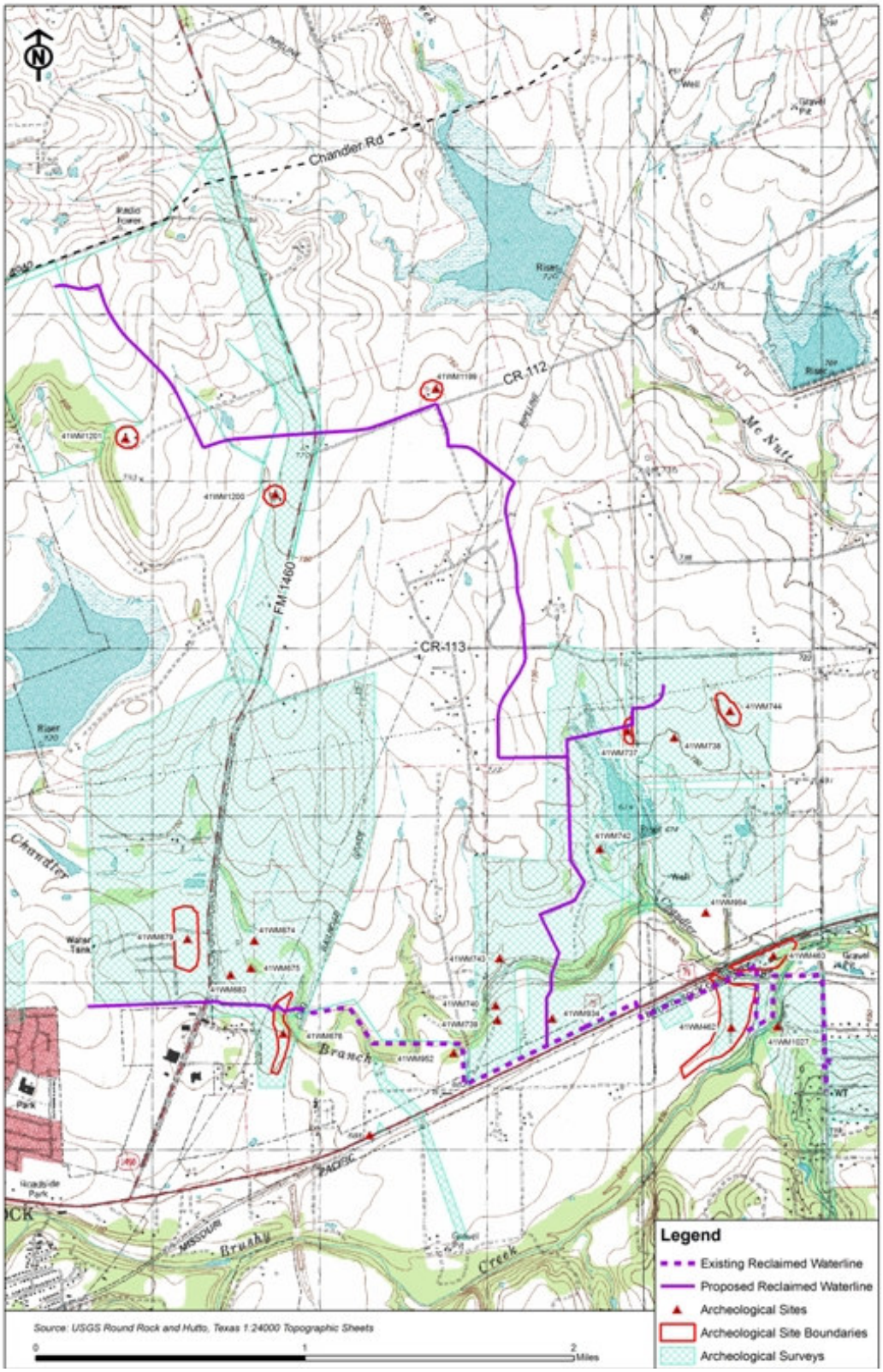
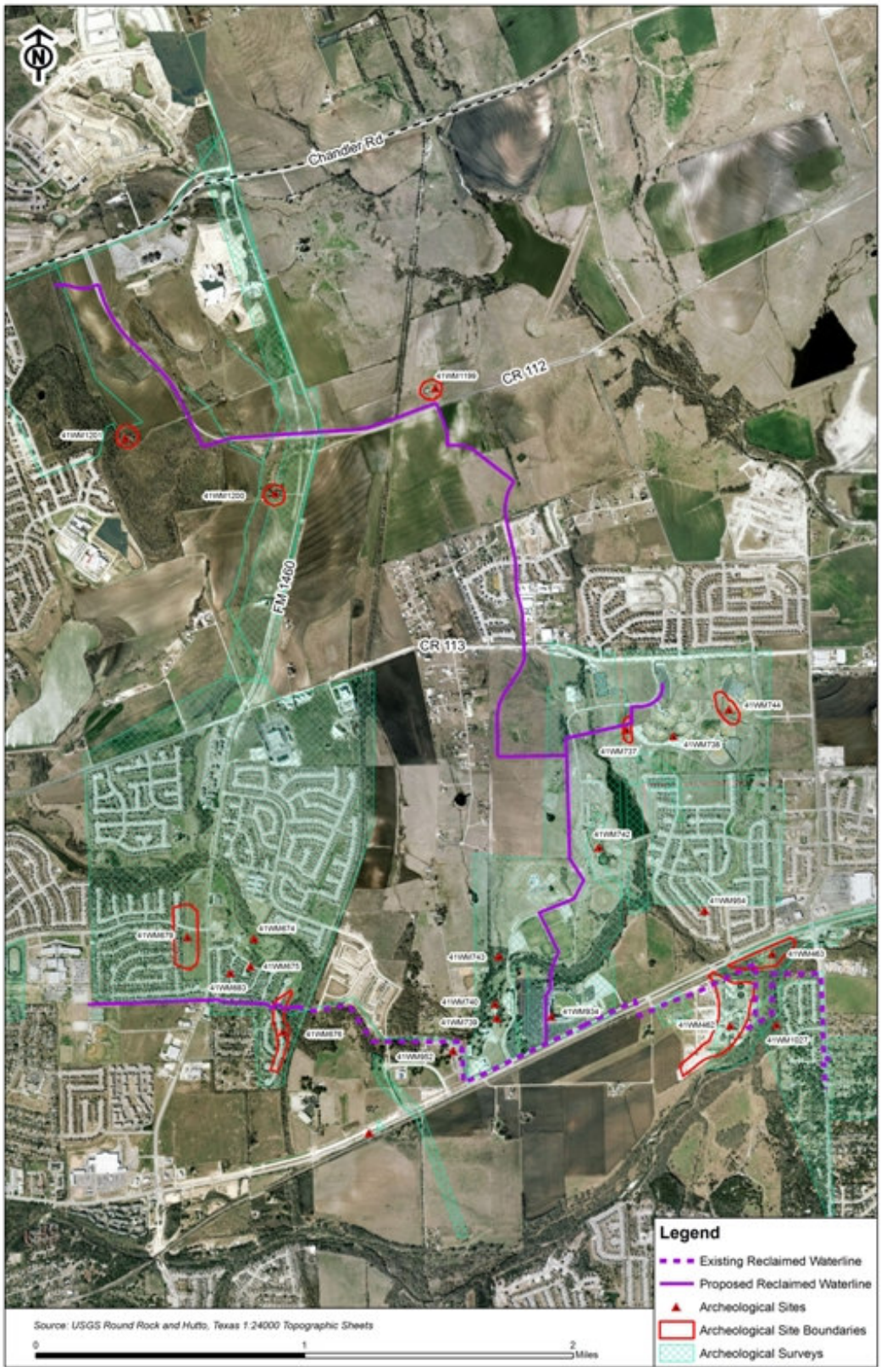

Chandler Rd
CR 112
CR-113
FM 1460
Mc Nutt
Brushy Creek
Legend
Existing Reclaimed Waterline
Proposed Reclaimed Waterline
Archeological Sites
Archeological Site Boundaries
Archeological Surveys
Source: USGS Round Rock and Hutto, Texas 1:24000 Topographic Sheets
Miles


Chandler Rd
CR 112
CR 113
FM 1460
41WM1139
41WM1200
41WM1200
41WM744
41WM737
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41WM742
41WM994
41WM463
41WM743
41WM740
41WM739
41WM834
41WM462
41WM1027
41WM879
41WM674
41WM675
41WM883
41WM878
41WM882
Legend
Existing Reclaimed Waterline
Proposed Reclaimed Waterline
Archeological Sites
Archeological Site Boundaries
Archeological Surveys
Source: USGS Round Rock and Hutto, Texas 1:24000 Topographic Sheets
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Miles

Appendix B: Public Meeting Notice

City of RR
#1502
3/28/09 $207.20
4/21/09 $207.20

AUSTIN COMMUNITY NEWSPAPERS

ROUND ROCK LEADER

AFFIDAVIT OF PUBLICATION

STATE OF TEXAS
COUNTY OF WILLIAMSON

Before me on this day personally appeared the undersigned, known to me to be an authorized representative of the ROUND ROCK LEADER, which is a newspaper of general circulation published in the county of Williamson in the state of Texas, who being duly sworn by me, states that the attached advertisement was published in said newspaper on the following dates, to wit: March 28th & April 21st, 2009 and that the attached is a true copy of said advertisement.

Publisher's signature

Sworn and subscribed to before me, this 1st Day of April, A.D. 2009.

Notary Public
In and for Williamson County, Texas

LORNA J. WOESSNER
Notary Public, State of Texas
My Commission Expires
August 30, 2009

PUBLIC MEETING ANNOUNCEMENT

CITY OF ROUND ROCK WATER REUSE PROJECT

The City of Round Rock (City) will hold a public meeting on Thursday, April 30, 2009 to discuss a proposed project to provide up to 10,000 acre-feet per year (af/yr), or 8.9 million gallons per day (MGD), of treated wastewater effluent (reuse water) to a variety of customers in the City. There is ongoing development north of Old Settler's Park and a large potential for reuse water use north of Old Settler's Park, in an area around the Higher Education Center. This project would be implemented in order to offset a projected long-term water supply deficit, as identified in the City's 2007 Water Distribution System Master Plan Update. The following three components would be included in this project:

- Improvements at the Brushy Creek Wastewater Treatment Plant (Plant) that allow production of treated wastewater effluent that complies with Texas Commission on Environmental Quality (TCEQ) requirements.
- Construction of pumping facilities at the plant to pressurize the water so it can be conveyed to reuse customers.
- Construction of pipelines and appurtenances to convey and adequately deliver reclaimed water from the plant to reuse customers.

Current average water demand of the City is approximately 22,000 af/yr or 20 MGD. By 2050, the average demand will increase to approximately 58,000 af/yr or 52 MGD. The City's current raw water supply consists of surface water from Lake Georgetown and Lake Stillhouse Hollow, as well as groundwater from the Edwards Aquifer. The City also has a contract for water from Lake Travis, although conveyance facilities have not been constructed. Overall, water supplies are expected to provide 51,000 af/yr, or 47 MGD, in 2050, thereby creating a water supply deficit of 7,000 af/yr, or 6.3 MGD. The proposed project would alleviate this potable water deficit by providing up to 10,000 af/yr, or 8.9 MGD, of reuse water to customers in the City for irrigation purposes.

The proposed project will be funded by the City and by grant funds provided by the Bureau of Reclamation (Reclamation). Because Federal funds are being used for the project, an environmental review must be conducted, pursuant to the National Environmental Policy Act of 1969, as amended. The main purpose of this review is to document potential environmental impacts in a way that is transparent to the public. To this end, a public meeting will be held on Thursday, April 30, 2009 to discuss the proposed project and to solicit input from the public. The meeting will be held at the Brushy Creek Regional Wastewater Treatment Plant Administration Building located at 3939 East Palm Valley Blvd. Round Rock, Texas 78664. It will be an open-house format, so that attendees may come and go from 4:30 pm to 6:30 pm, during which time the public may view information and discuss the project with City staff and their engineering and environmental consultant staff.

Please contact Christy Justice at 512-671-2755 with the City for anyone needing special accommodations and/or interpreter services during the public meeting at least 3 days prior to the meeting date.

Publication Dates:
March 28th, 2009
April 21st, 2009